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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/051,881 | 01/18/2002 | Albert E. Johnson | 4500-7 (04500.0012.6) | 7900 |

26158 7590 10/28/2004

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| EXAMINER | |
|---|---|
| BOYD, JENNIFER A | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1771 | |

DATE MAILED: 10/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) |
|---|---|---|
| | 10/051,881 | JOHNSON ET AL. |
| | Examiner | Art Unit |
| | Jennifer A Boyd | 1771 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *19 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 19, 2004 has been entered. The Applicant's Amendments and Accompanying Remarks, filed August 19, 2004, have been entered and have been carefully considered. Claim 1 is amended and claims 1 – 13 are pending. In view of Applicant's Amendment, the Examiner withdraws all previously set forth rejections as detailed in paragraphs 3 – 7 in the Office Action dated May 20, 2004. However, after an updated search, additional prior art has been found which renders the invention as currently claimed unpatentable for reasons herein below.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Claim Rejections - 35 USC § 102*

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Dellinger et al. (US 5,431,979).

Dellinger is directed to a cut-resistant tarpaulin (Title).

As to claim 1, Dellinger teaches a tarpaulin comprising a waterproof coating 22 bonded

to a woven fabric 24. Dellinger teaches that the fabric 24 is made of cut-resistant fibers (column 1, lines 59 – 69). Dellinger teaches that the coating 22 and fabric may be adhered to one another by use of a polyester film such as MYLAR (column 2, lines 1 – 5). It is known in the art that MYLAR is a waterproof film. The Examiner equates the MYLAR film to Applicant's "adhesive waterproofing layer". Dellinger teaches that the coating 22 can be a resin impregnated fabric such as ISOPLAN (column 2, lines 8 –18). Dellinger teaches that ISOPLAN is a polyvinyl chloride resin coated woven polyester fabric (column 2, lines 10 – 18). The Examiner equates the ISOPLAN (waterproof coating 22) to Applicant's "outer woven fabric layer". It should be noted that a coating would be applied to the entire fabric thus meeting Applicant's requirement of at least 25%. Dellinger teaches a variety of fibers to be used as the warp and weft in the cut-resistant woven fabric 24 which are non-coated yarns (column 2, lines 60 – 69 and column 3, lines 1 – 15). The Examiner equates the fabric 24 to Applicant's "inner fabric layer".

### *Claim Rejections - 35 USC § 103*

4. Claims 2 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dellinger et al. (US 5,431,979) in view of Deitz (US 4,295,235).

Dellinger teaches that the coating 22 can be a resin impregnated fabric such as ISOPLAN, which is a polyvinyl chloride resin coated woven polyester fabric (column 2, lines 10 – 18) but fails to specifically disclose that the outer fabric layer comprising coated yarns comprising a core yarn covered by an extruded polymeric sheath as required by claim 2. Dellinger fails to teach that the coating is polyvinyl chloride and the core yarn is polyester as required by claims 3 – 4 and 6 - 7.

Deitz is directed to a cushion adapted for outdoor use particularly in outdoor furniture (Abstract). Deitz teaches a pair of opposed woven fabric side layers and an interlayer formed of water impervious material disposed between the side layers (Abstract). Deitz teaches that the woven fabric layers 12 and 14 are composed of filaments comprising nylon or polyester thread encapsulated with a vinyl coating (column 5, lines 35 – 45). Deitz notes that such a material is available under the trade name TEXTILENE (column 5, lines 35 – 45). Deitz teaches in the Background of the invention that woven fabric material constructed of vinyl covered nylon or polyester thread, rather than a vinyl sheet material, is used for the side layers of an outdoor cushion in order to increase the speed with which the filler material would dry after becoming wet (column 1, lines 52 – 60). Therefore, the presence of vinyl covered polyester threads or yarns would create a highly waterproof material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use core yarn covered by an extruded polymeric sheath, specifically a polyvinyl chloride covered polyester yarn, as suggested by Deitz in the composite tarp of Dellinger motivated by the desire to create a highly waterproof composite.

As to claims 5 and 8, Dellinger in view of Deitz discloses the claimed invention except for that the outer woven fabric has core yarn denier of 70 – 1200 as required by claim 5 and the outer woven fabric has a core yarn denier of 500 – 3500 as required by claim 8. It should be noted that the core yarn denier is a result effective variable. For example, as the core yarn denier increases, the yarn becomes stiffer and stronger. As the core yarn denier decreases, the yarn becomes softer and has a lower strength. It would have been obvious to one having ordinary skill

in the art at the time the invention was made to optimize the core yarn denier to 70 – 1200 as required by claim 5 or 500 – 3500 as required by claim 8 since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the core yarn denier to create a strong and flexible fabric.

5. Claims 9 – 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dellinger et al. (US 5,431,979) in view of Deitz (US 4,295,235) as applied above, further in view of Druckman et al. (US 4,996,100).

Dellinger in view of Deitz teaches the claimed invention above but fails to disclose that the "outer woven layer", can also include effect yarns selected from the group of acrylics, modacrylics, polypropylene, polyethylene and polyester as required by claim 9. Deitz fails to teach that the coated yarn content is at least 50% as required by claim 10. Deitz fails to teach that the coated yarn is introduced in both the warp and fill in a pattern alternating with effect yarns as required by claim 13.

Druckman is directed to improved fabrics suitable for use outside exposed to environmental elements (column 1, lines 1 – 8). Druckman teaches the alternating of vinyl and soft fabrics yarns in the warp direction and filling direction of a woven fabric (Abstract). Druckman notes that the resulting fabric has the durability characteristics of the vinyl while possessing soft characteristics provided by the soft fabric yarns (Abstract). Druckman teaches that suitable soft fibers may be modacylics, acrylics, polypropylene, polyethylene and polyesters

(column 2, lines 35 – 37). By examining Figure 2, it is shown that the majority of the yarns in the woven fabric are vinyl yarns rather than the soft yarns.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the effect yarns of Druckman in an alternating fashion as suggested by Druckman in the composite of Dellinger in view of Deitz motivated the desire to create a fabric with high durability provided by the vinyl yarns and soft characteristics provided by the effect yarns in addition to creating an aesthetically pleasing fabric.

6. Claims 9 and 11 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dellinger et al. (US 5,431,979) in view of Deitz (US 4,295,235) as applied above, further in view of Swers et al. (US 6,557,590).

Dellinger in view of Deitz teaches the claimed invention above but fails to disclose that the "woven layer" can also include effect yarns selected from the group of acrylics, modacrylics, polypropylene, polyethylene and polyester as required by claims 9 and 11. Dellinger in view of Deitz fails to teach that the coated yarn is introduced in the fill alone as required by claim 12.

Swers directed to fabrics that are used for outdoor applications such as outdoor cushion upholstery, tents, awnings and marine applications (column 1, lines 24 – 33). Swers teaches that the fabric comprises a woven structure formed of warp effect yarns and self-coating yarns formed of high melt and low melt yarn constituents in at least part or all of the fill (column 1, lines 10 – 22). Therefore, in one embodiment, Swers teaches that the woven structure can comprise warp effect yarns in the warp direction and only self-coating yarns in the fill direction.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the effect yarns in the pattern as suggested by Swers in the mesh fabric of Dellinger in view of Deitz motivated the desire to create a fabric with abrasion resistance, load/elongation recovery, firm hand and weave stability while having an aesthetically pleasing looking.

As to claim 11, Dellinger in view of Deitz and Swers discloses the claimed invention except for that the coated yarn is introduced in the warp alone. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a fabric with coated yarn introduced in just the warp alone, since it has been held to be within the general skill of a worker in the art to select a pattern of yarns on the basis of its suitability for the intended use as a matter of design choice.

***Response to Arguments***

7. Applicant's arguments with respect to claims 1 – 4, 6 – 7 and 9 - 13 have been considered but are moot in view of the new ground(s) of rejection.

8. Applicant's arguments with respect to claims 5 and 8 have been fully considered but they are not persuasive.

9. In response to Applicant's arguments that the denier selection for the core yarns is not a matter of optimization of a result effective variable, the Examiner submits the following suggestion. If the claimed ranges have unexpected results, the burden is upon the Applicant to demonstrate that the claimed ranges are not a matter of simple optimization. The Examiner

highly suggests to the Applicant to submit a 37 CFR 1.132 Declaration to establish unexpected results. In the Declaration, the Applicant should compare a sufficient number of tests both inside and outside the claimed range to show the criticality of the claimed range. *In re Hill*, 284 F.2d 955, 128 USPQ 197 (CCPA 1960) and must compare the claimed subject matter with the closest prior art to be effective to rebut a prima facie case of obviousness.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer Boyd
October 25, 2004

Ula Ruddock

**Ula C. Ruddock**
**Primary Examiner**
**Tech Center 1700**